TRANSPORTATION COMMISSION

Motorcycle Safety Presentation

Presented by:

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Washington Traffic Safety Commission

Lt. Michael Turcott
Washington State Patrol

Date:

March 18, 2009

Presentation Outline

- Review crash analysis of motorcycle fatal crashes
- Washington State's response
- Allocation of resources
- Progress and on going evaluation
- Target Zero
- Conclusion

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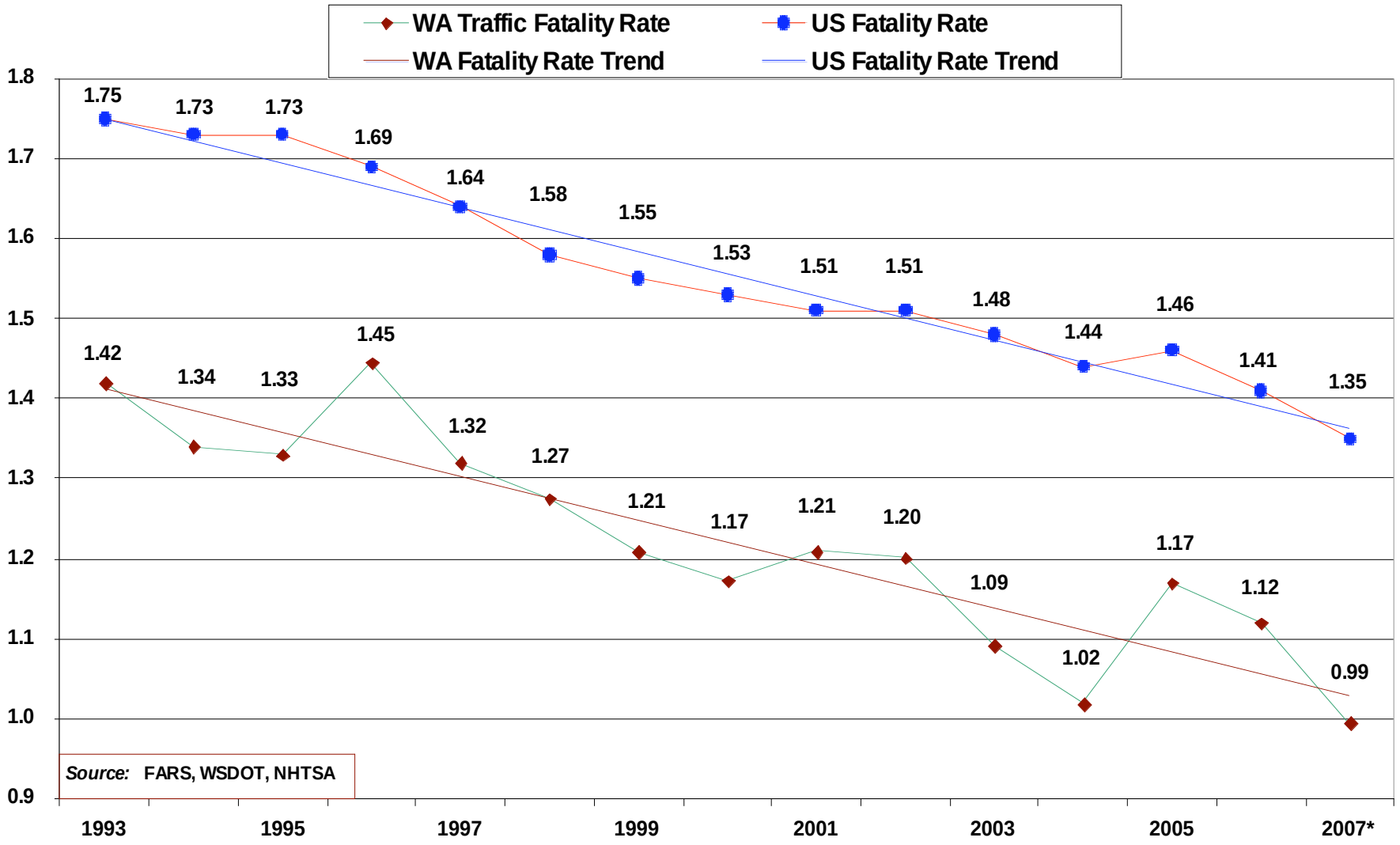
WASHINGTON and U.S.TRAFFIC FATALITY RATES, 1993-2007 *

Traffic fatalities per 100 million vehicle-miles traveled *, * 2007 figures based on preliminary data as of 6/18/08*



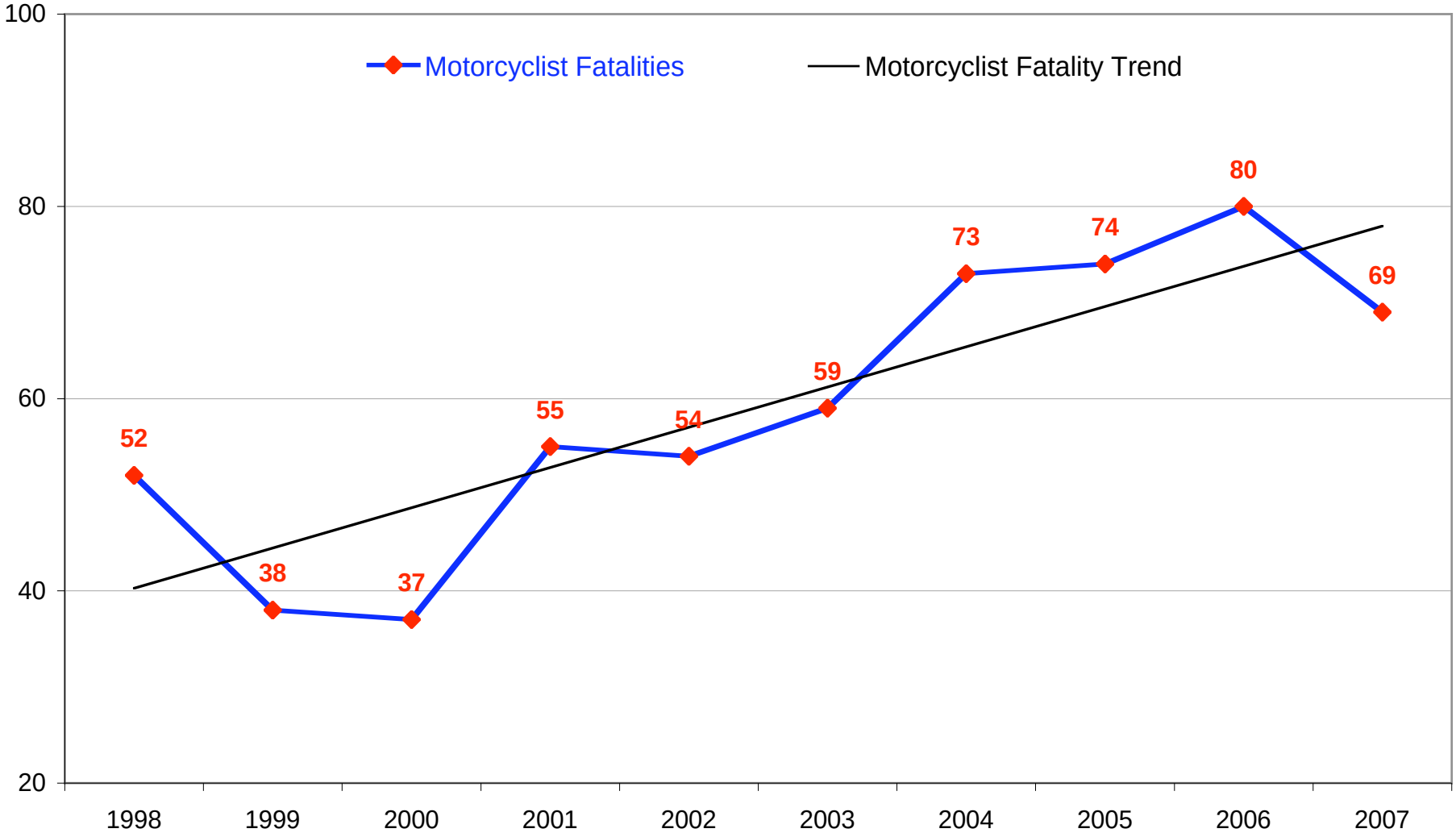
National Data on Motorcycles

- Across the country, motorcycle crashes have increased every year for the past nine years.
- Motorcycle fatalities represent 11% of highway fatalities in the US even though motorcycles represent only 3% of the registered vehicles.
- Motorcyclists are 35 times more likely to die in a crash than passenger car occupants.
- SAFETEA-LU authorized a $25M state motorcycle safety grant program to support rider training and motorist awareness (2010 funding).

MOTORCYCLIST FATALITIES, WA 1998-2007

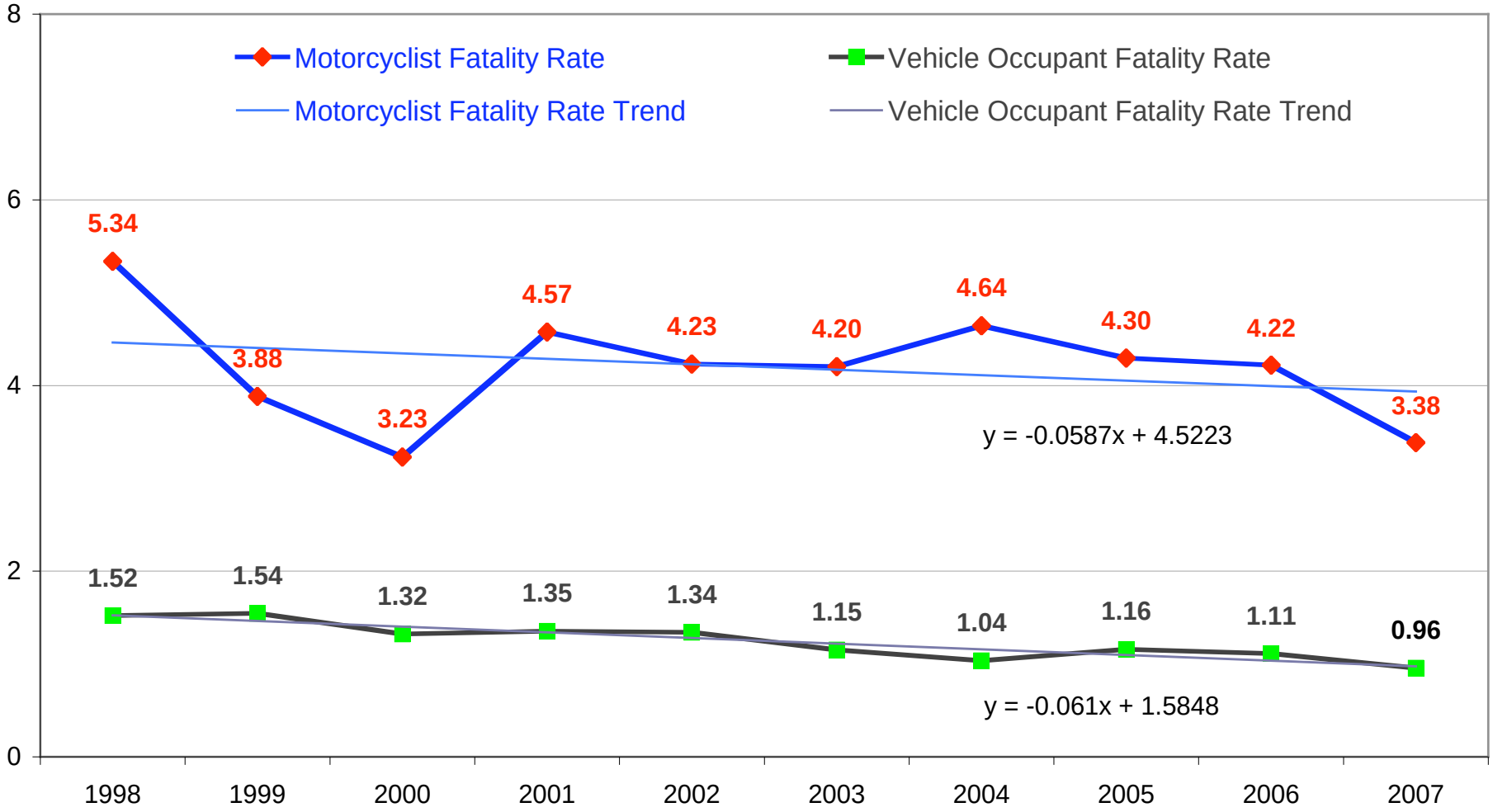
Number of motorcyclist fatalities by Year

Source: FARS



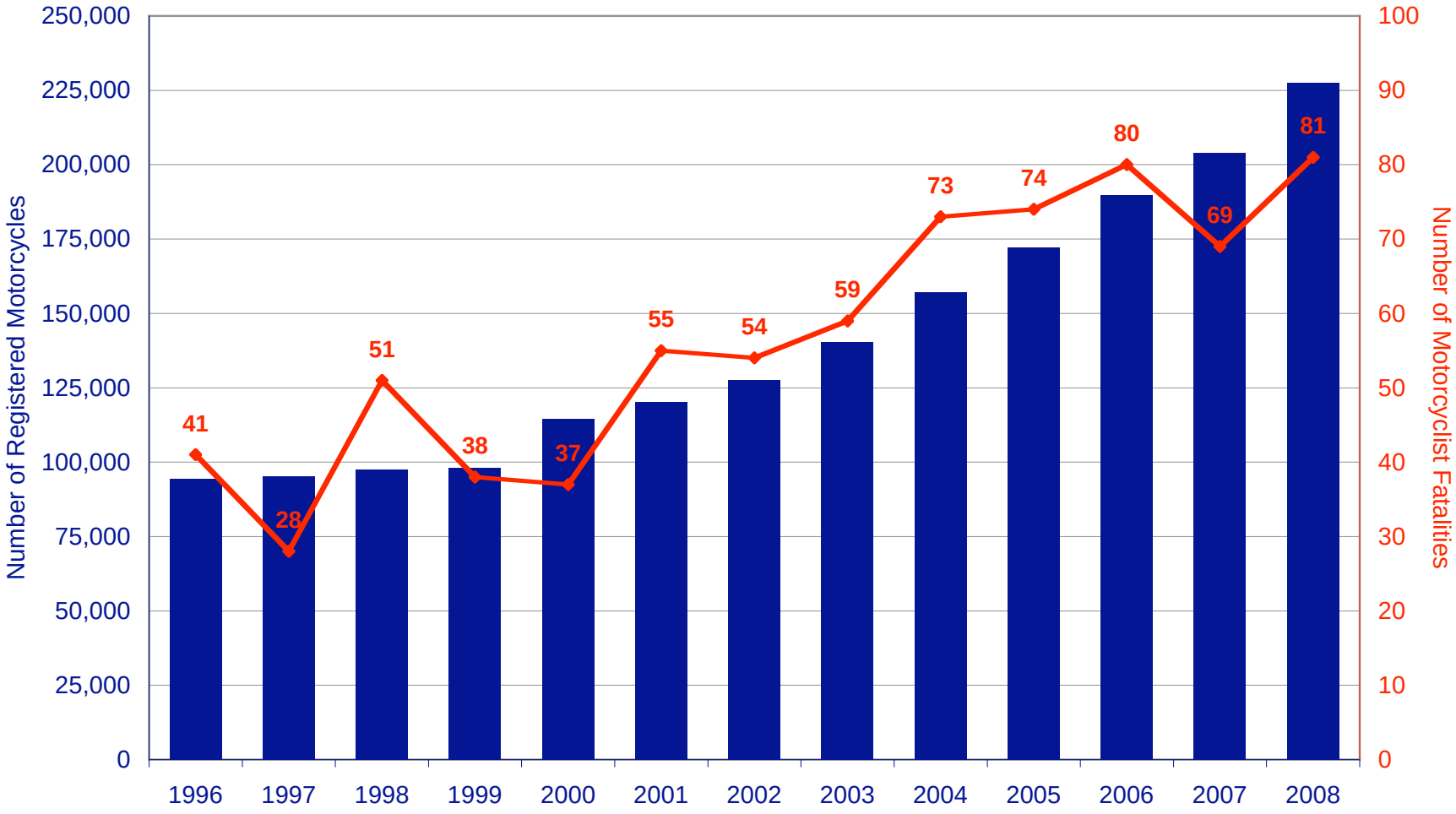
TRAFFIC FATALITY RATES, WA 1998-2007
Passenger Vehicle Occupants v. Motorcyclists
Fatalities per 10,000 registered vehicles

Source: FARS



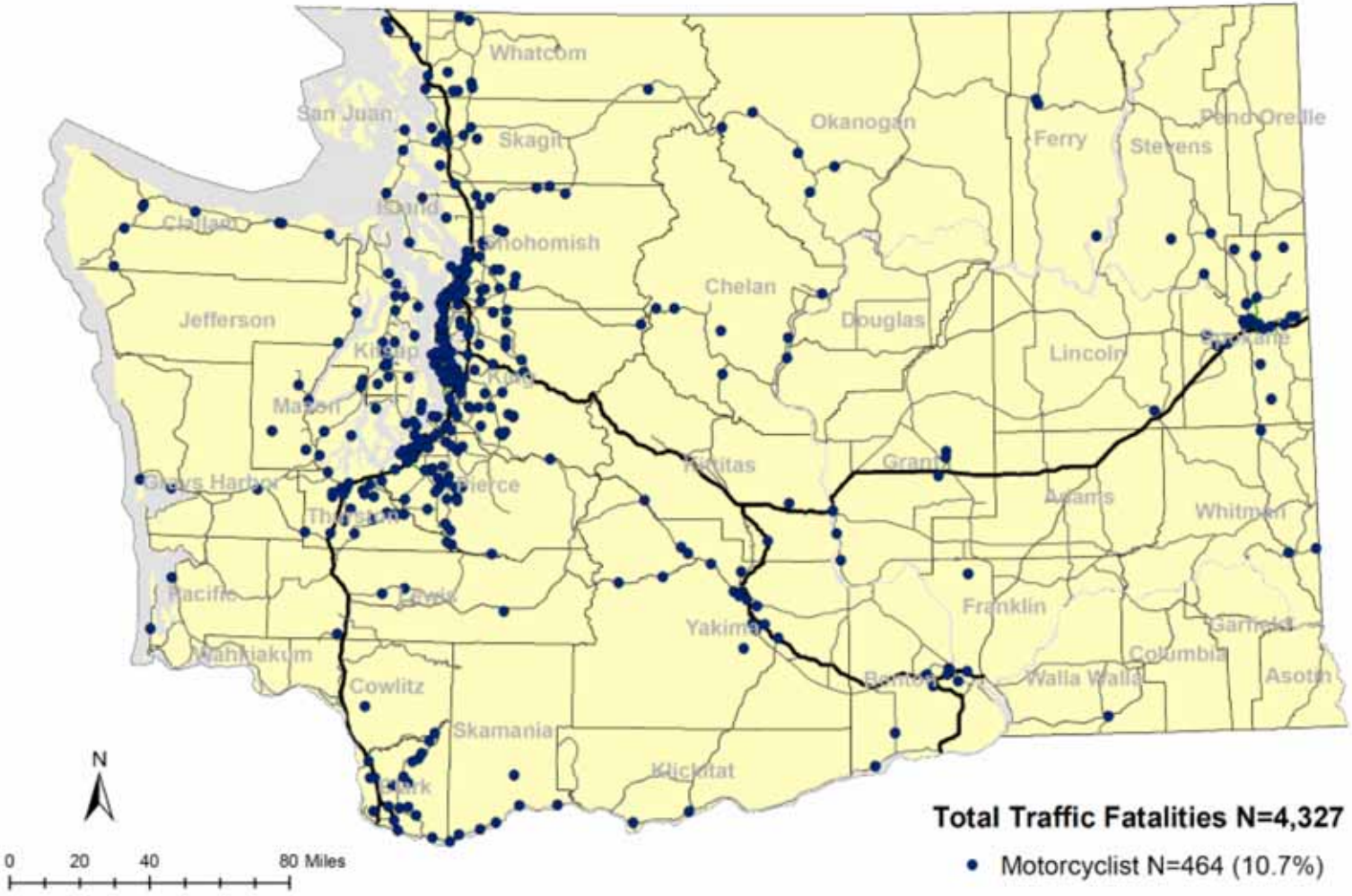
Registered Motorcycles and Motorcyclist Fatalities

Washington State, 1996-2008*



Source: FARS and DOL.
Fatalities in 2008 are preliminary and may change as more information becomes available. Total number of registered motorcyles in Washington State from DOL Vehicle/Vessel Registration Fee Distribution Count Reports.

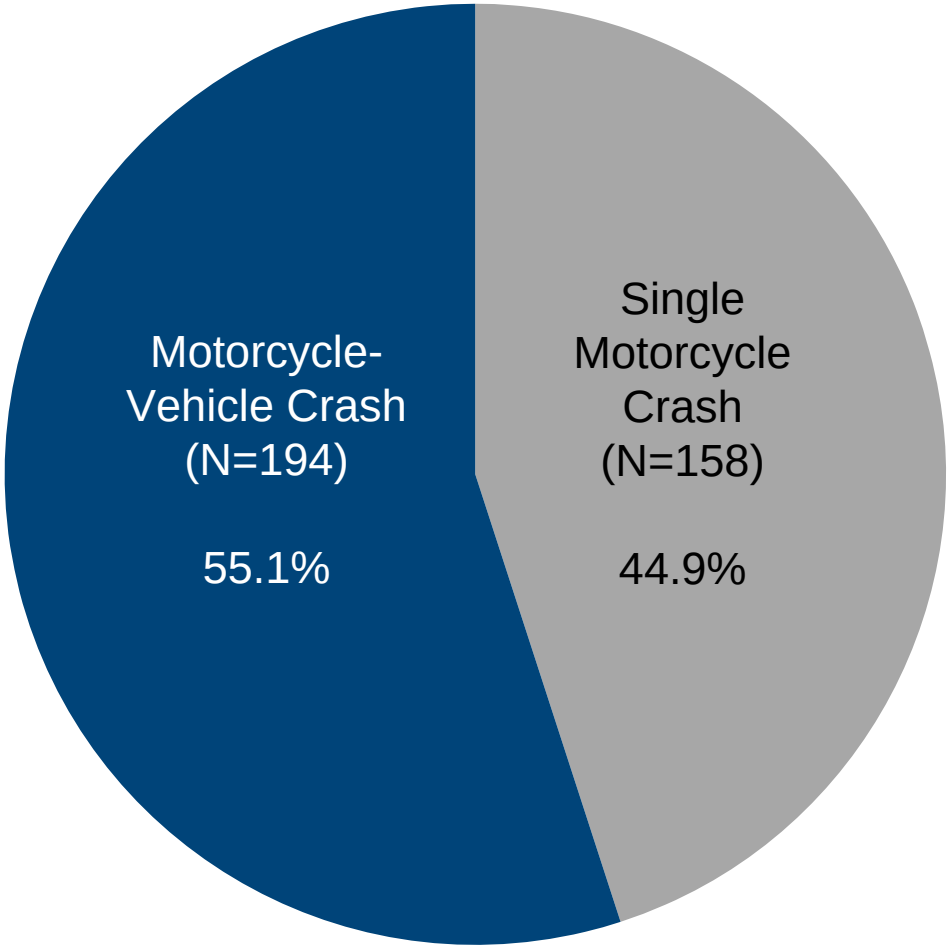
Motorcyclist Fatalities, WA 2001-2007



Source: FARS

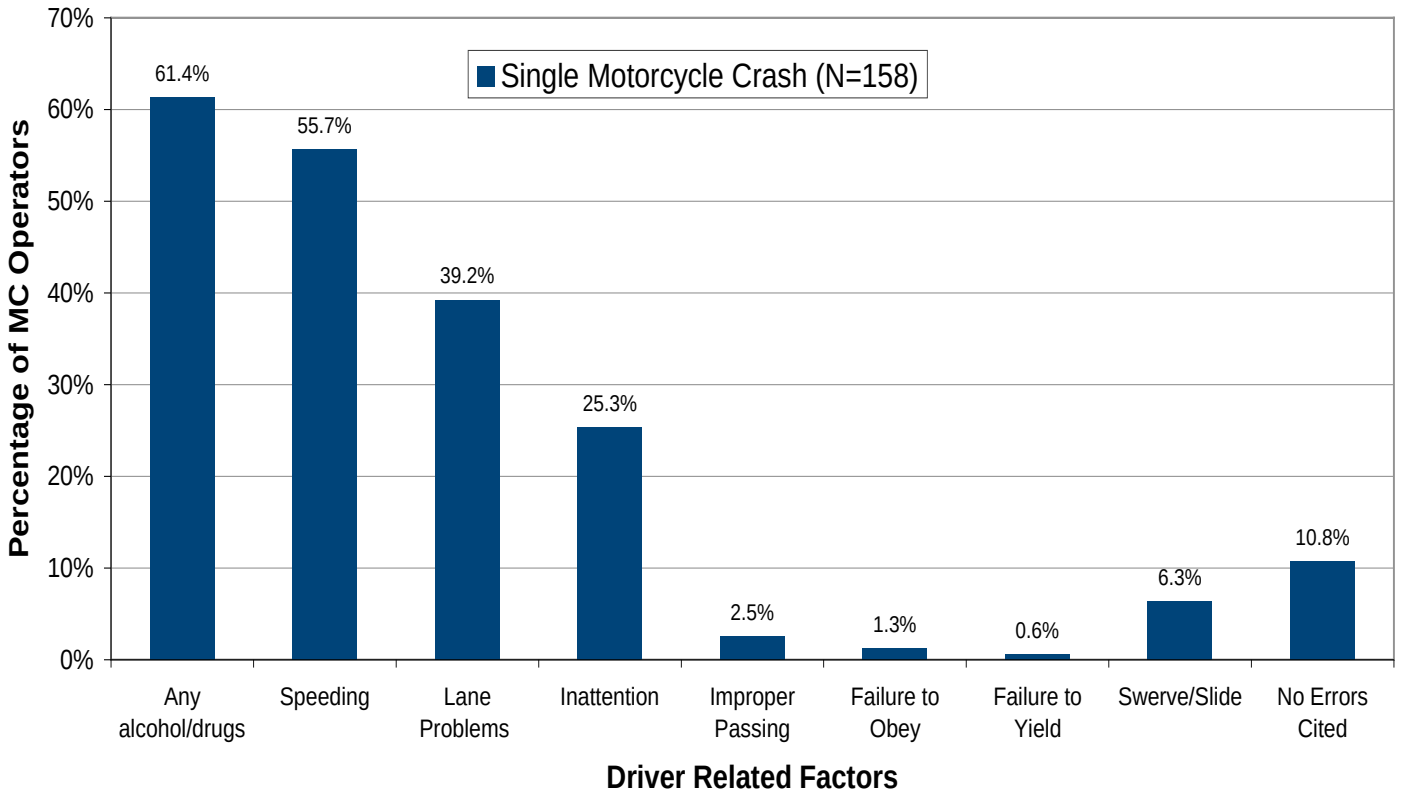
Fatal Crashes Involving a Motorcycle by Type of Crash

Washington State, 2003-07



Source: FARS

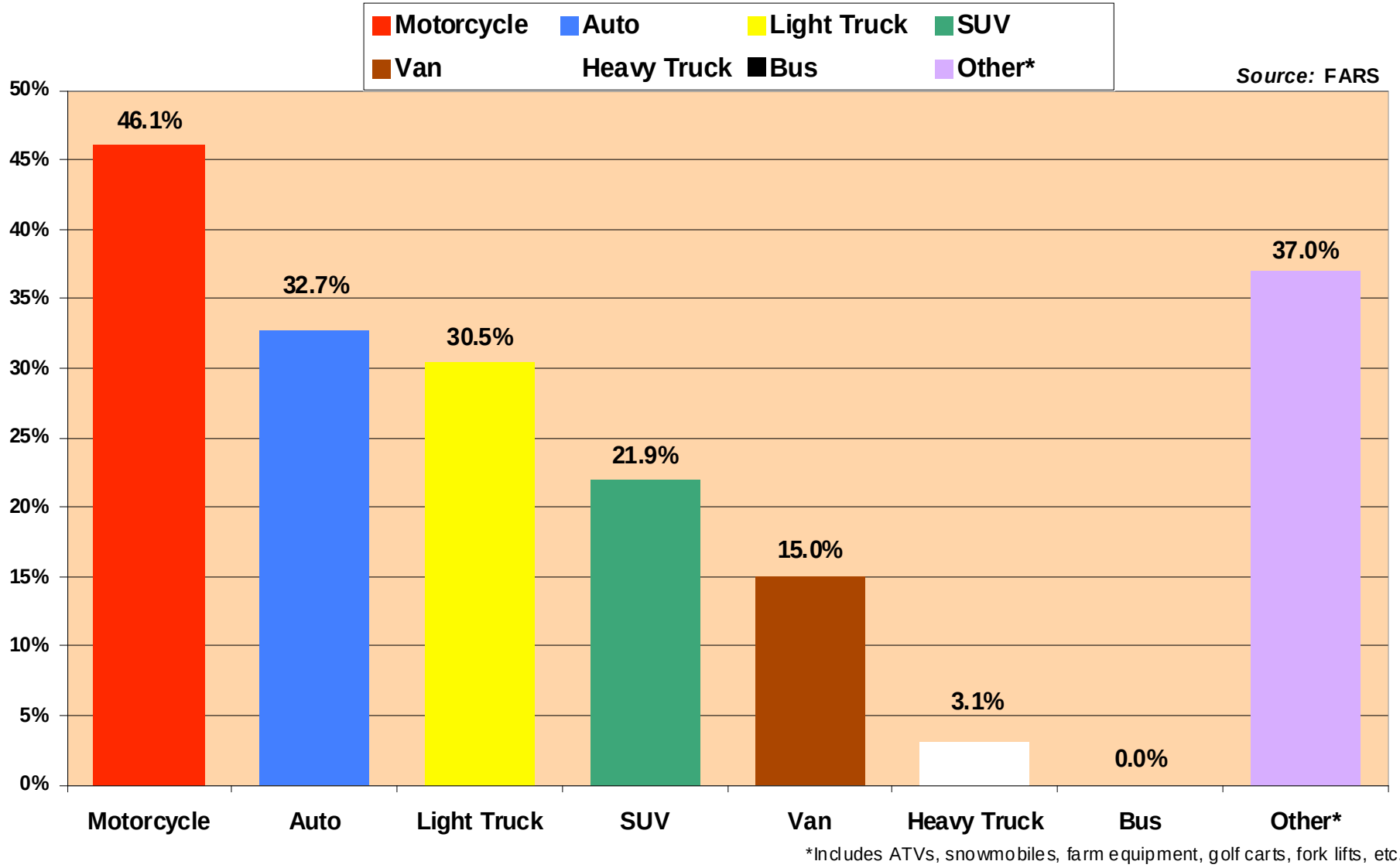
Impairment and Speeding are the Main Contributing Factors in MC Crashes



Source: FARS. Any alcohol/drugs defined as police reported alcohol or drugs or a positive drug or alcohol test result.

Drivers Impaired in Washington Fatal Crashes, 1998-2007

By Vehicle Type, *Percent of Drivers with either a BAC ≥ .08 or a positive drug test*

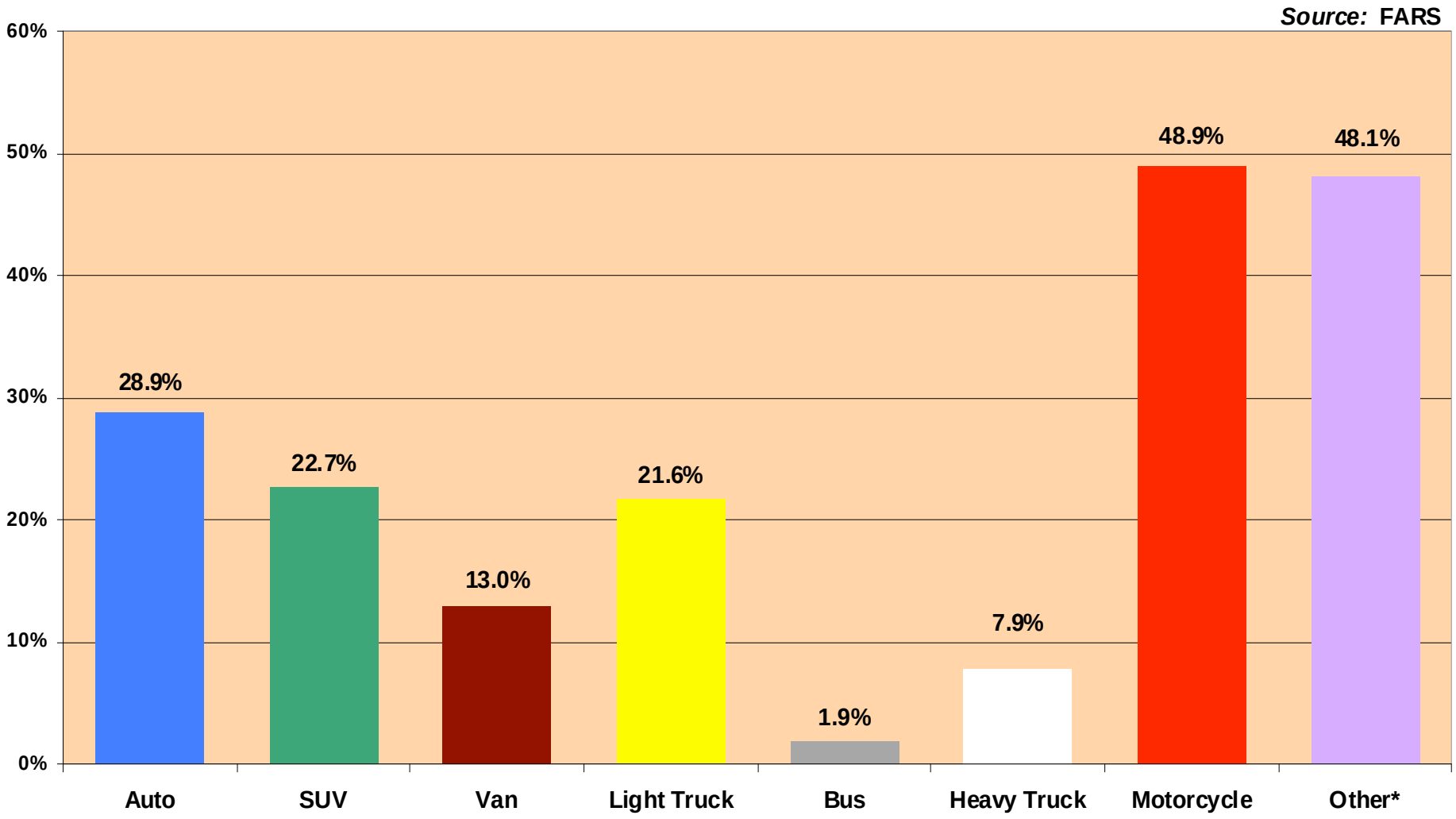


*Includes ATVs, snowmobiles, farm equipment, golf carts, fork lifts, etc.

DRIVERS SPEEDING IN WASHINGTON FATAL CRASHES, 1998-2007

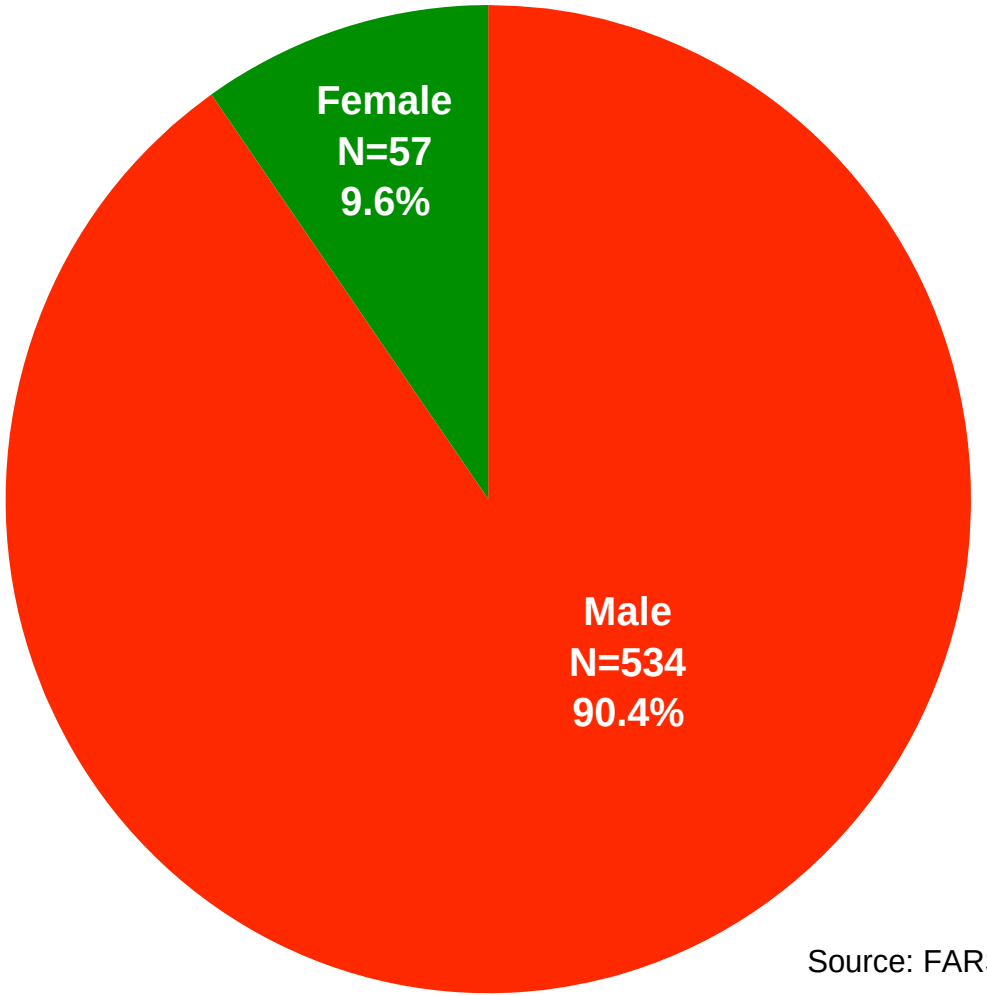
By Vehicle Type, *Percent of Speeding Drivers for each vehicle type**

**As identified by collision investigators*



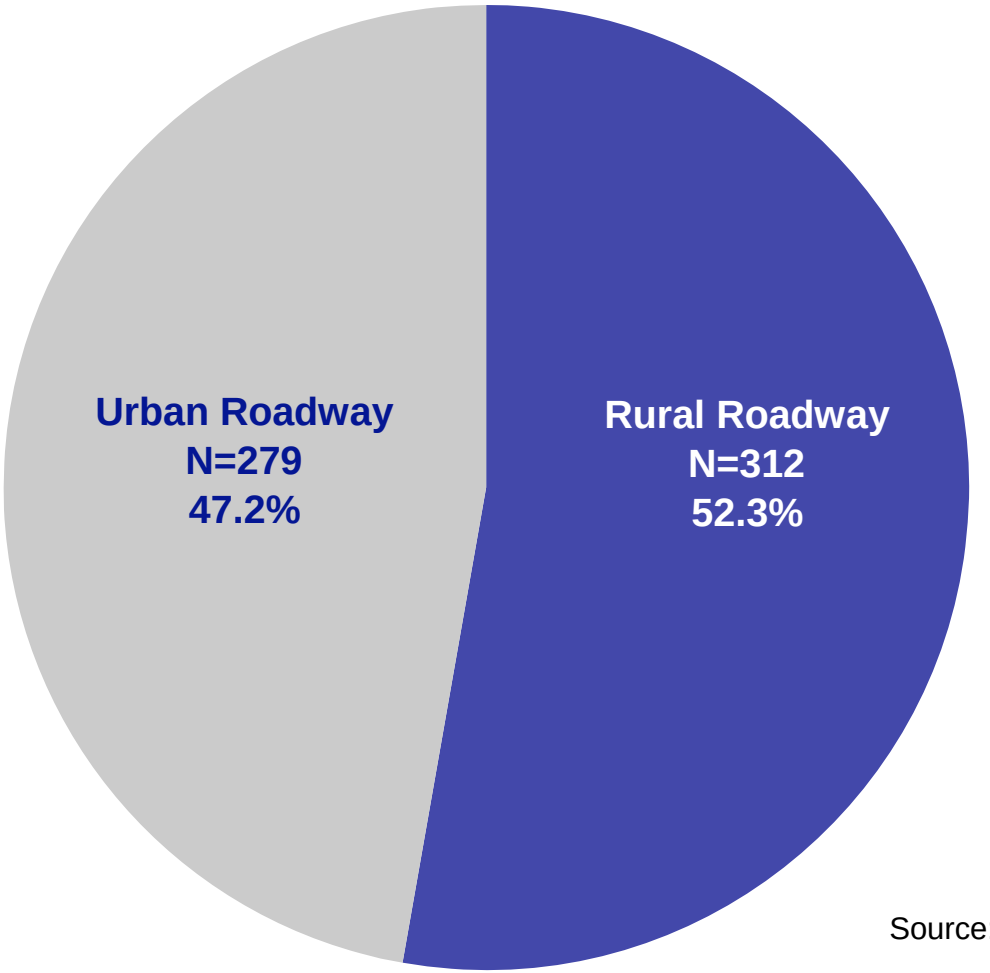
*Includes ATVs, snowmobiles, farm equipment, golf carts, fork lifts, etc.

MOTORCYCLIST FATALITIES, WA 1998-2007
By Gender



Source: FARS

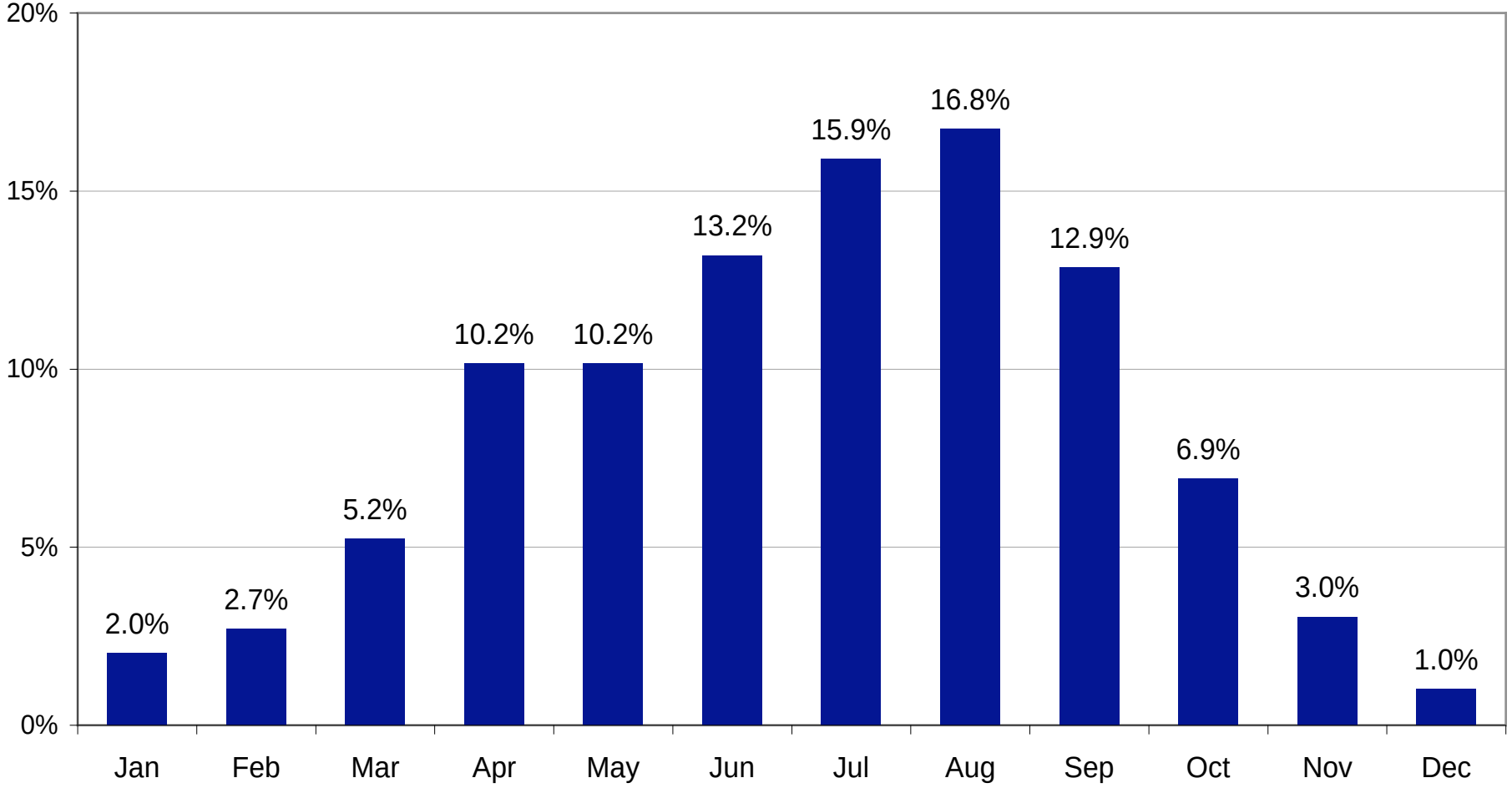
WASHINGTON MOTORCYCLIST FATALITIES, 1998-2007
By Urban-Rural Roadway Function Classification



Source: FARS

MOTORCYCLIST FATALITIES, WA 1998-2007
By Month of Crash
Percentage of motorcyclist fatalities

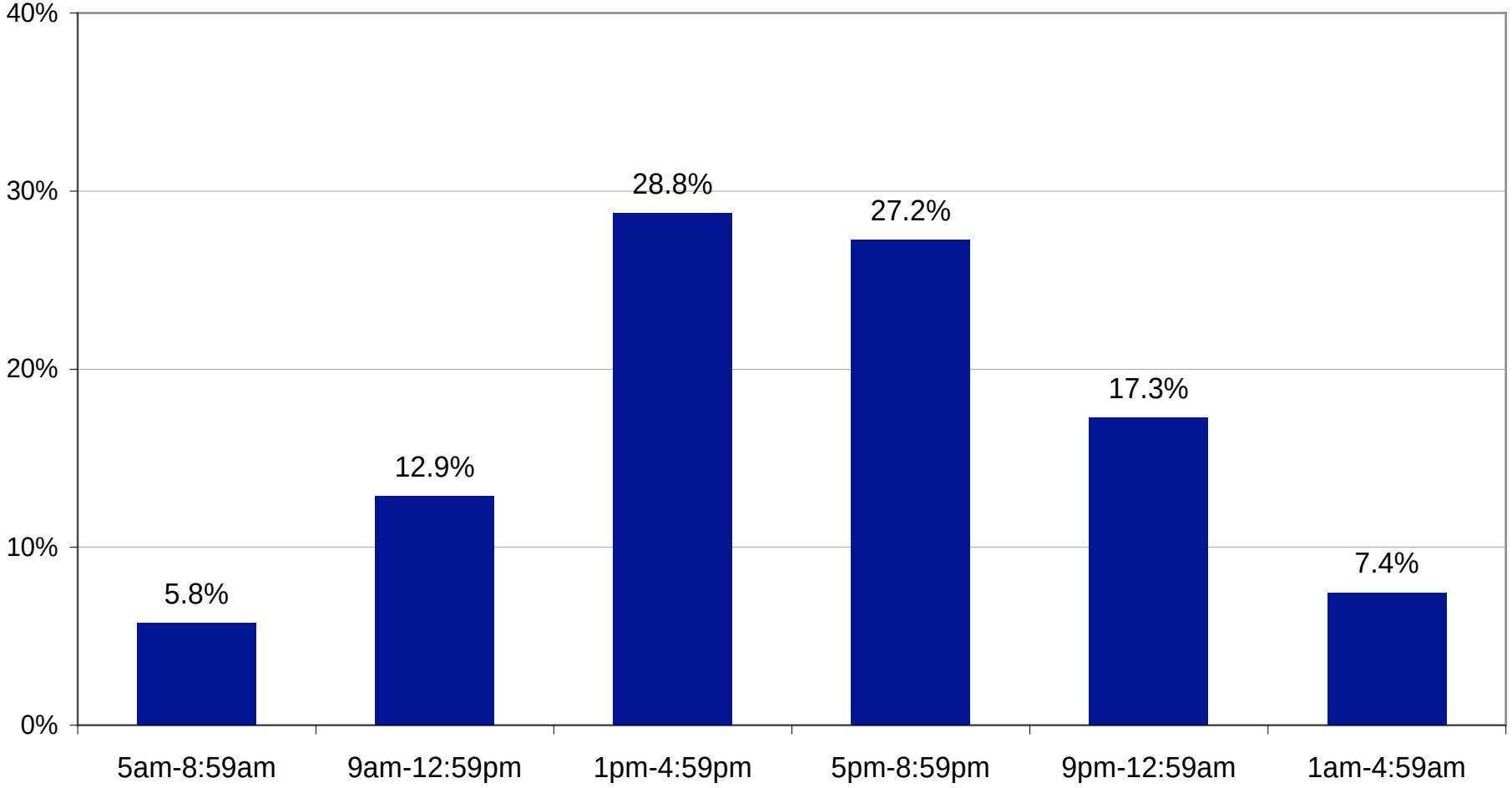
Source: FARS



MOTORCYCLIST FATALITIES, WA 1998-2007
By Time of Crash

Percentage of motorcyclist fatalities

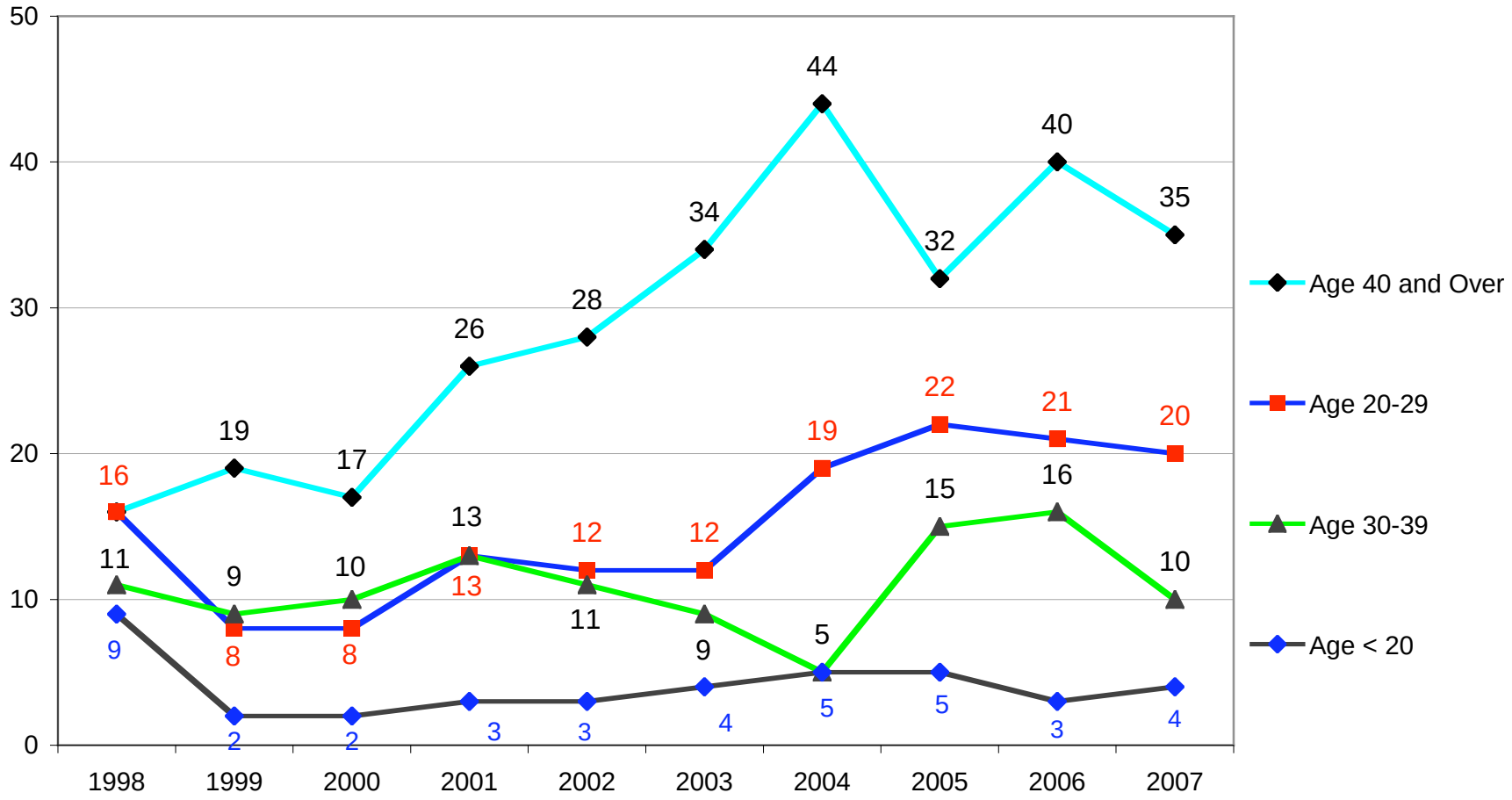
Source: FARS.



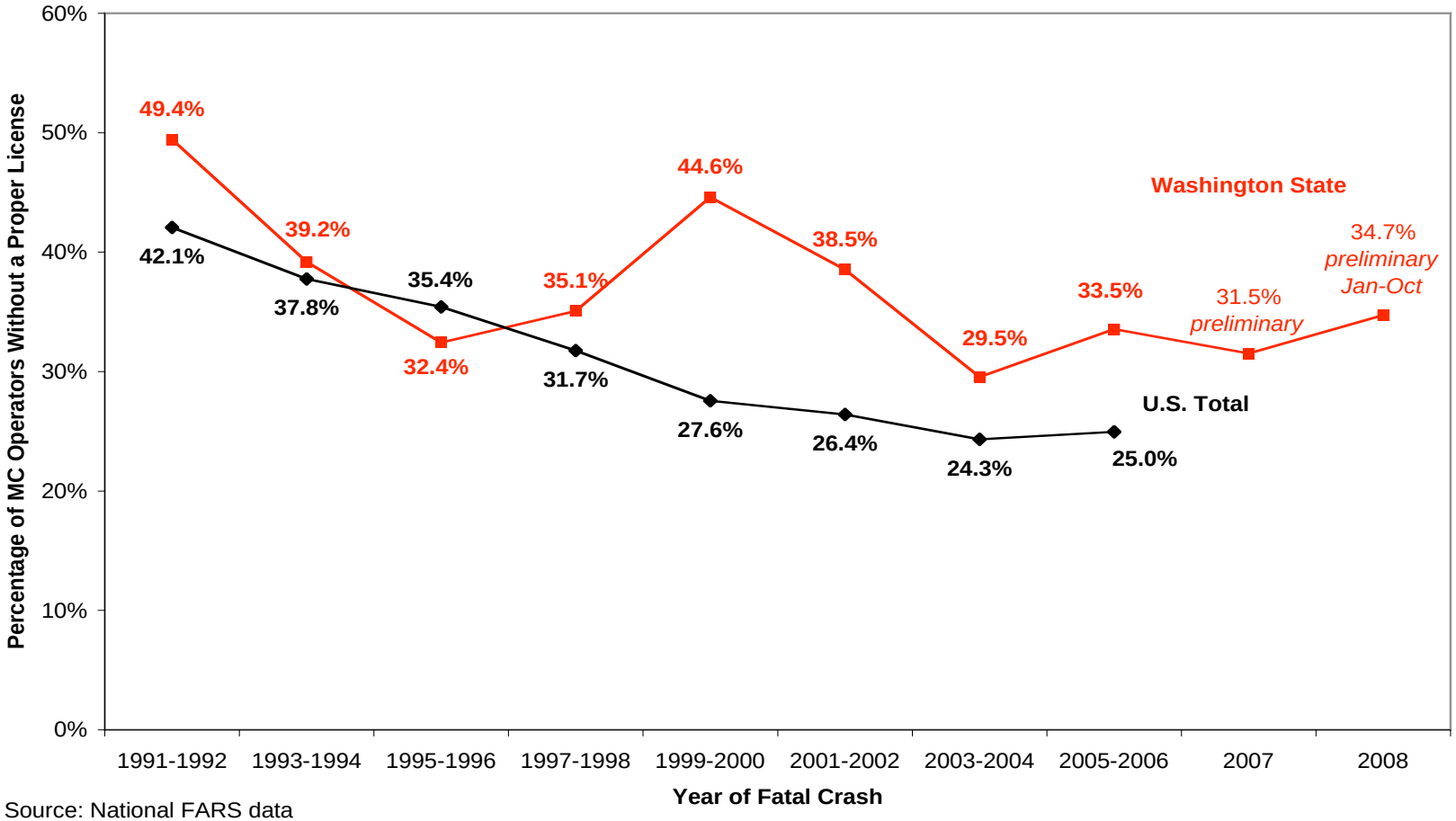
MOTORCYCLIST FATALITIES, WA 1998-2007
By Age Group and Year

Number of motorcyclist fatalities

Source: FARS



In 2008, Nearly 35% of WA Operators Involved in a Fatal Crash Were Not Endorsed



Source: National FARS data

Properly licensed motorcycle operators were those with a a valid license for the class of vehicle they were operating and a valid non-CDL license status. Valid non-CDL license status in 1991-1992 included single-class license, multiple-class license, learners permit, and temporary license. From 1993 to 2003, valid status included valid license, learner's permit/restricted, and temporary license. From 2004 to 2007, valid status included valid license and learner's permit. Operators with unknown license status and license for the class of vehicle were excluded. The total number of operators with an unknown license status for Washington from 1991 to 2006 was 5 (0.6%) and for the U.S. was 513 (1.1 %).

Washington Motorcycle Data

- Half of all Washington motorcycle fatalities occur in King (25.6%), Pierce (10.8%), and Snohomish (13.9%) Counties,
- Total = 50.3%

Acceptable Outcomes?

- No!
- In order to change this trend, the state needed a new way to make and monitor progress in reducing motorcycle fatalities.

Solution – 2005 GMAP meeting with Governor Gregoire, Director Liz Luce (DOL), Chief John Batiste (WSP), and WTSC to discuss the states response to this trend.

Governor's GMAP – February 2008

Motorcycle Safety

What is causing the recent reduction in fatalities?

Objective: Reduce motorcyclist fatalities and injuries.

Strategy: Deploy Motorcycle Taskforce recommendations for education, endorsement and enforcement.

Measures: Number and rate of fatalities

Target: Reduction of 10 fatalities from 2006 to 2007, and reduction of fatality rate from 42 to 38

	Fatalities	Rate	Registrations
2006	80	42	189,686
¹ 2007	66	32	203,865
change	-14	-10	14,179
% change	-18%	-23%	7%

Analysis:

- Fatalities were reduced beyond targets even while registrations were increasing beyond normal trend.
- Fatalities and rates improved during the same period in which strategies were deployed.
- We cannot yet conclude that our strategies caused reduction in fatalities; fatalities-only data set is too small for conclusive analysis of cause and effect.
- We analyzed fatalities and injuries data over 6 years, and concluded that combining the data creates a better data set for studying cause and effect.

Action Plan	Who	Due
1. Continue the education, endorsement and enforcement strategies. 2. Combine motorcycle fatalities and injuries data sets, and revise measures and targets accordingly. 3. Cross-reference this combined data set with strategies data (i.e., locations of strategies deployed). 4. Analyze whether/when/where strategies were followed by statistically significant reductions in fatalities and injuries.	Batiste, Luce, Porter	08/30/08

Data Notes: "Injuries" data source is WSDOT "disabling injury collisions" as of 01/15/08 (proxy for actual injuries count). "Fatalities" data source is FARS as of 01/08/08 (as defined nationally, whereas agency-specific definitions and counts may be more specific, and are available upon request).
* 2007 fatalities are preliminary count; FARS data will be tracked and verified for several months following calendar month of occurrence. See dashboard for counts through 09/30/07, which are expected to remain stable.

Key GMAP Strategies

- Increase motorcycle rider training opportunities and public education and awareness campaigns;
- Focus DUI and speeding enforcement based on motorcycle crash data;
- Impound motorcycles of un-endorsed operators under new statute (effective date of 2007) WSP Impounds 133 – 2007 (6 months), and 257 in 2008.

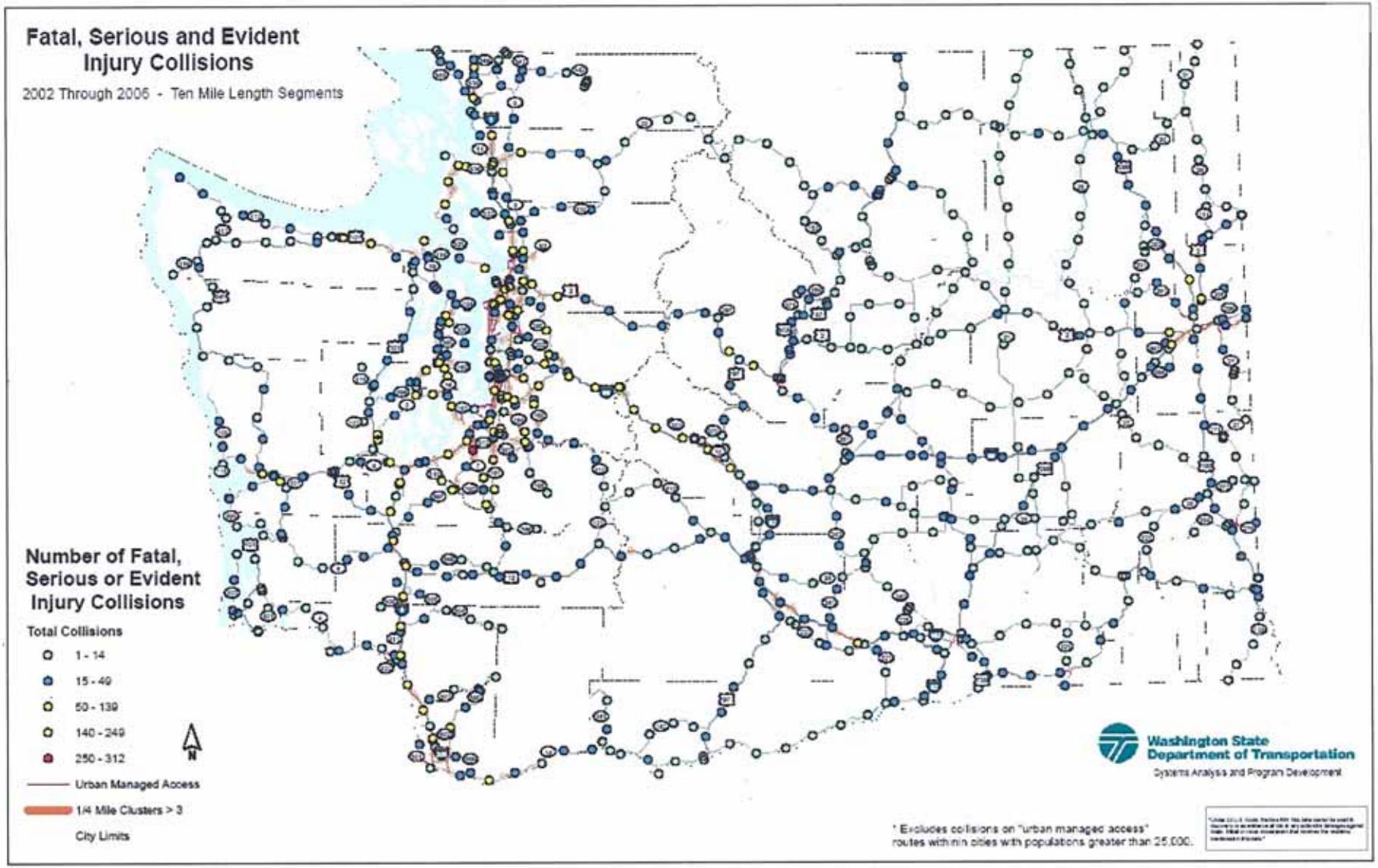
Governor's Motorcycle Task Force

- Started in late 2005.
- Members included state agencies (WSP, DOL, WTSC, WSDOT, and DOH) as well as rider groups.
- Recommendations:
  - DOL assess and revise rider training curriculum
  - Development of a public awareness campaign
  - Legislation seeking increased funding for training classes; strengthening impound law for unendorsed riders (both passed Legislature in 2007 session)
  - Enforcement focusing on speeding and DUI

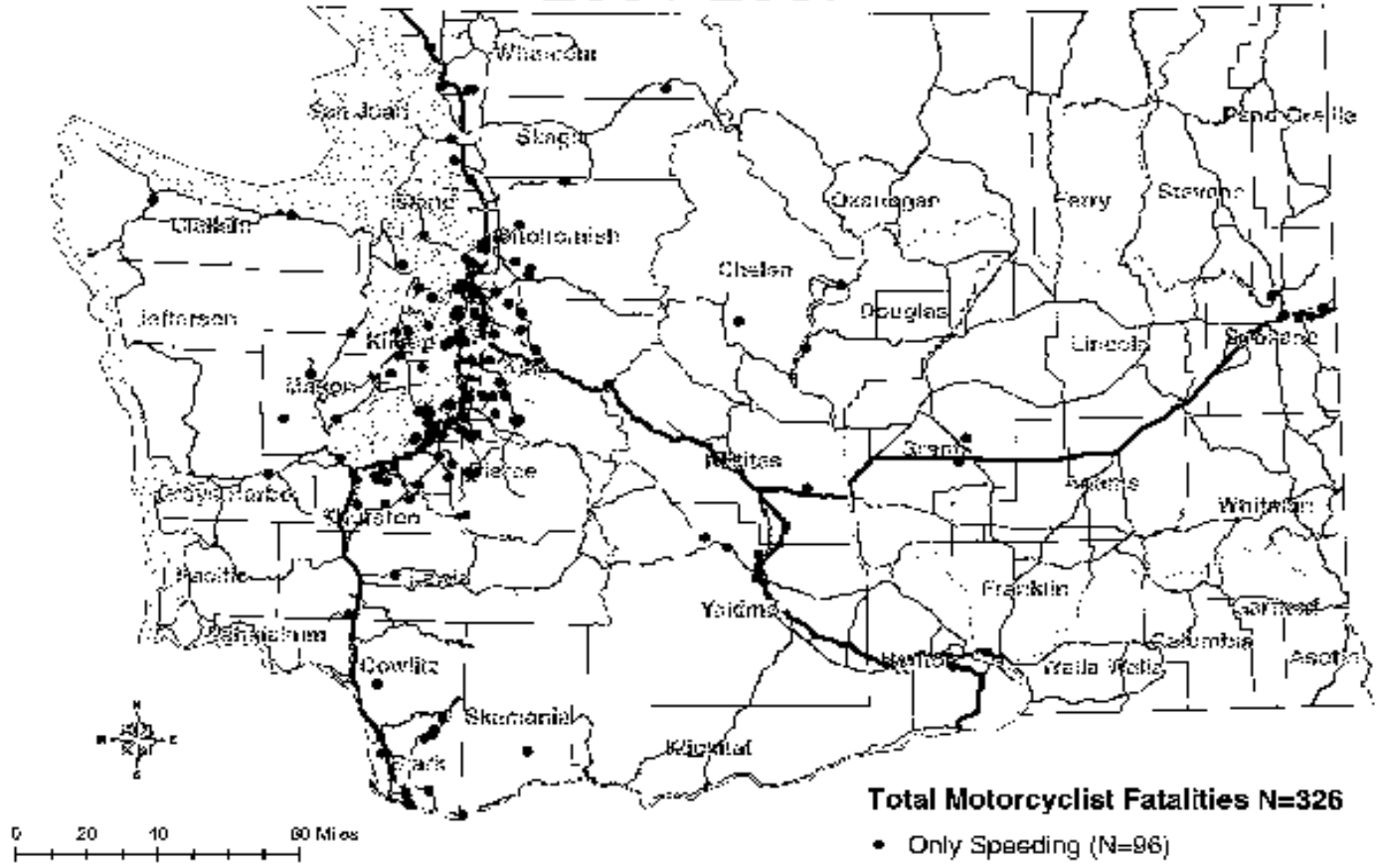
DOL Media Campaign

- Television PSA 'Endorse Your Sport" – PSA development and air buy paid with SAFETEA-LU 2010 funds;
- Endorseyoursport.com web site directs riders to DOL web site for rider training class information, cost of endorsement, etc; and
- Additional operator training classes added so DOL continues to qualify for Federal funding in 2010 funding.

DRAFT


Fatal, Serious and Evident Injury Collisions
2002 Through 2006 - Ten Mile Length Segments
Number of Fatal, Serious or Evident Injury Collisions
Total Collisions
1 - 14
15 - 49
50 - 139
140 - 249
250 - 312
N
Urban Managed Access
1/4 Mile Clusters > 3
City Limits
Washington State Department of Transportation
Systems Analysis and Program Development
* Excludes collisions on "urban managed access" routes within cities with populations greater than 25,000.

Motorcyclist Fatalities by Speeding and IDI 2001-2007

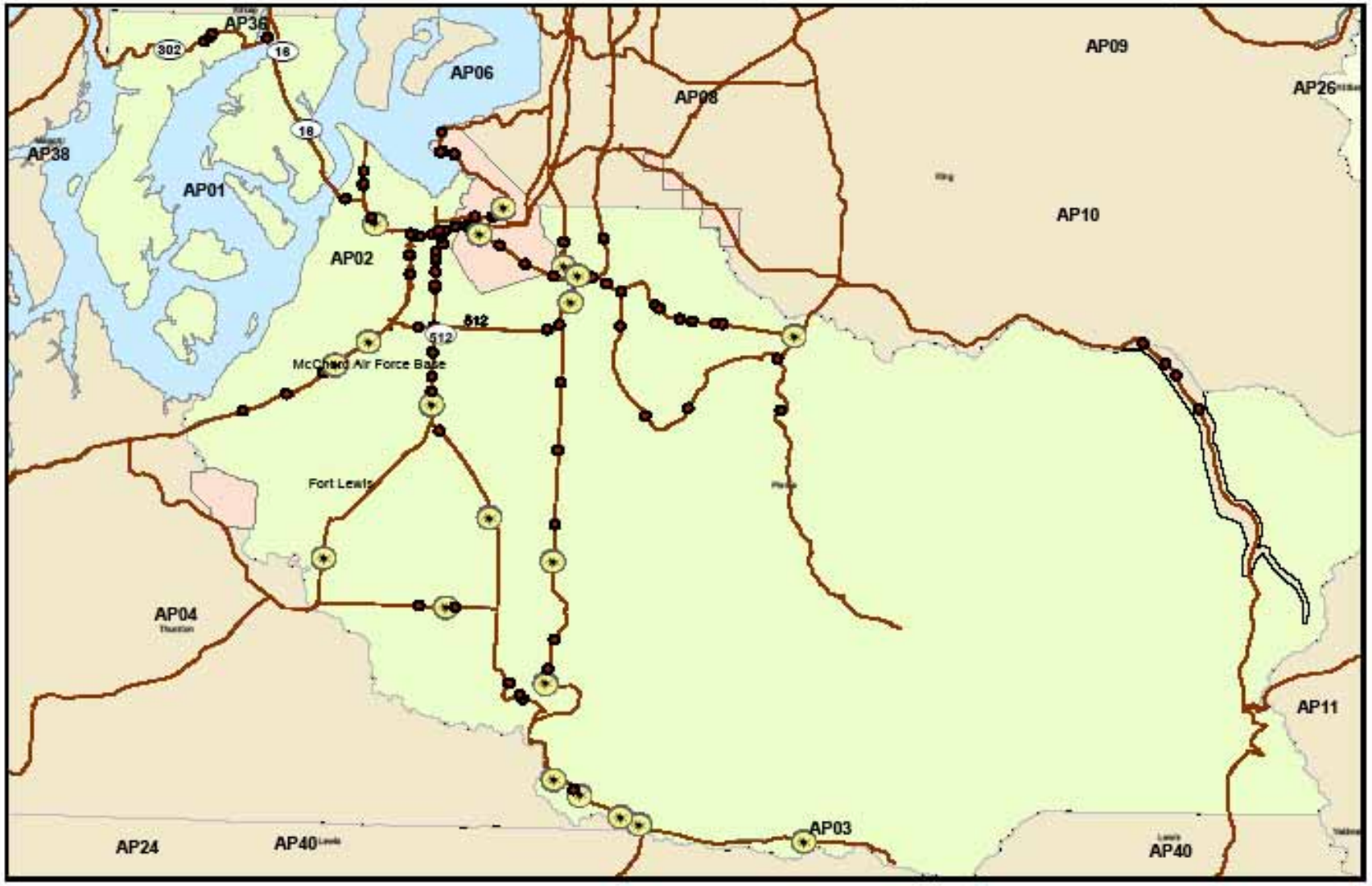


Total Motorcyclist Fatalities N=326

- Only Speeding (N=96)
  Only Impaired (N=99)
- Both Speeding and Impaired (N='91)

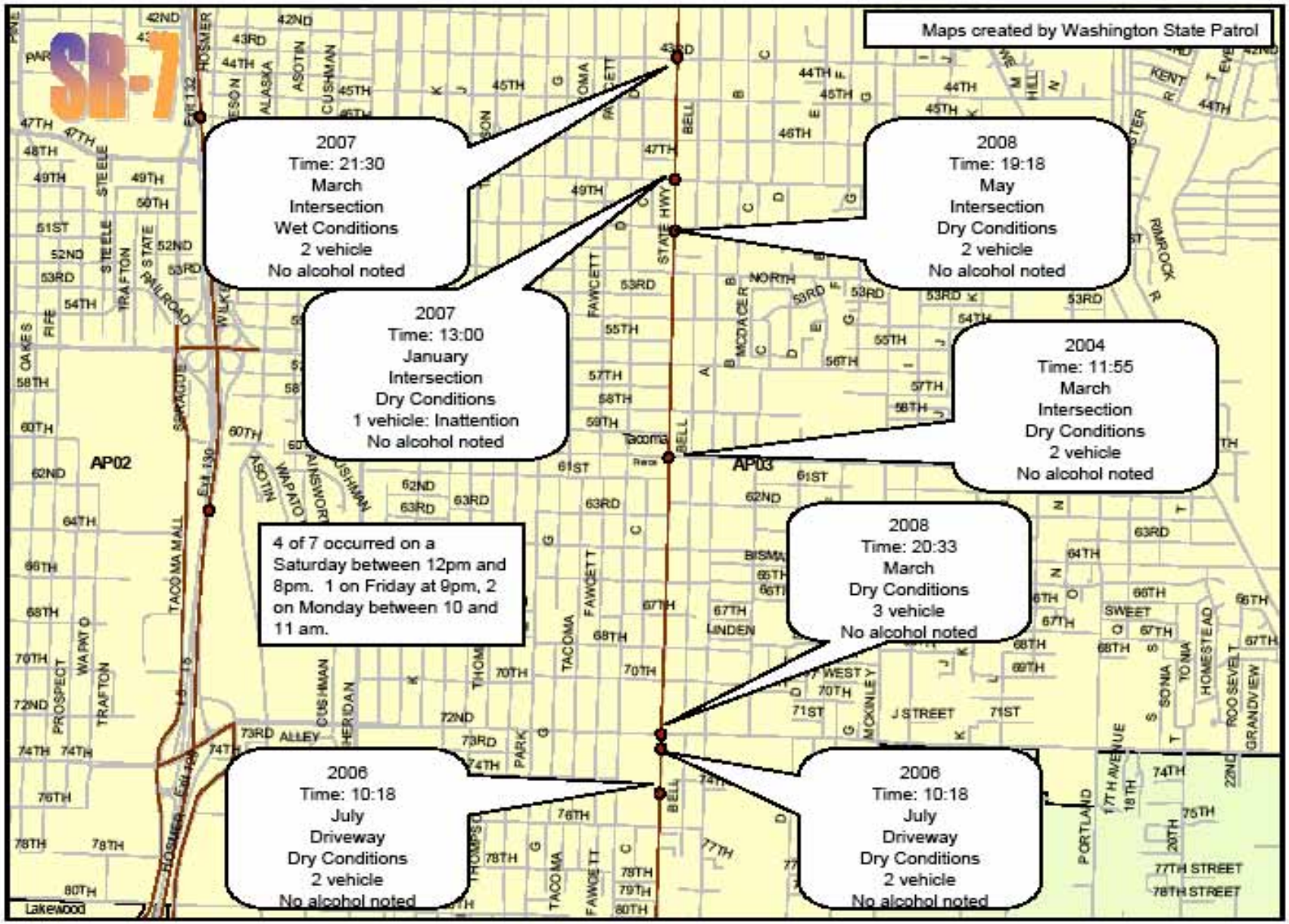
Source: FARS

Pierce County State Route Fatal and Disabling Motorcycle Collisions (2002-2008)



* Under 23 United States Code - Section 409, this data cannot be used in discovery or as evidence a trial in any action for damages against the WSDOT or the State of Washington.

Map Prepared by WSP
Source: WSDOT Collision Data as of March 2009


Maps created by Washington State Patrol
SR-7
2007
Time: 21:30
March
Intersection
Wet Conditions
2 vehicle
No alcohol noted
2008
Time: 19:18
May
Intersection
Dry Conditions
2 vehicle
No alcohol noted
2007
Time: 13:00
January
Intersection
Dry Conditions
1 vehicle: Inattention
No alcohol noted
2004
Time: 11:55
March
Intersection
Dry Conditions
2 vehicle
No alcohol noted
4 of 7 occurred on a Saturday between 12pm and 8pm. 1 on Friday at 9pm, 2 on Monday between 10 and 11 am.
2008
Time: 20:33
March
Dry Conditions
3 vehicle
No alcohol noted
2006
Time: 10:18
July
Driveway
Dry Conditions
2 vehicle
No alcohol noted
2006
Time: 10:18
July
Driveway
Dry Conditions
2 vehicle
No alcohol noted
AP02
AP03
Tacoma
Lakewood
TACOMA MALL
SPRAGUE
WILKESON
STATE HWY
BELL
FAWCETT
MCKINLEY
J STREET
PORTLAND
ALLEY
I-5

2008* PIERCE COUNTY MC FATALITIES

*This information is preliminary and subject to change; it is for internal use only.

			ROADWAY		VEHICLE		DRIVER INFORMATION								DRIVING HISTORY					TOX SCREEN		
	FRS #	CR DATE	RD TYPE	TR ID #1	VEH#	BODY TYPE	PER TYPE	REG OWNER	DRF1	DRF2	DRF3	DRF4	MC ENDORS ?	HELMET ?	PRV CR	PRV DUI	PRV OTH*	PRV SPD	PREV SUS/REV	BAC	DRUG1	DRUG2
1	18	1/18/2008	CO	176th St E	1 of 2	MC	DR	Y	fail to yield ROW	fail to obey trfc contr	suspended	other non-mov	SUS, MC EXP	Y	0	0	7	2	7	0	oxy-codone	canna-binoid, type unk
2	60	2/16/2008	SR	SR-410	2 of 2	MC	DR	Y	spd over limit	0	0	0	YES	N	2	0	0	0	1	0.24	0	0
3	190	6/20/2008	SR	N Meridian St	1 of 2	MC	PASS	Y	passing wrg side	0	0	0	NO**	Y	1**	0	2**	0**	0**	0	0	0
4	210	6/27/2008	SR	SR-512	1 of 1	MC	DR	Y	too fast for cond	passing wrg side	passing where prohib	under inf of alc/dr/med	NO LIC	Y	0	0	0	0	0	0.18	0	0
5	257	8/2/2008	CI	E 56TH ST	1 of 2	MC	DR	Y	inattention	too fast for cond	racing	0	YES	Y	0	0	0	0	0	0	0	0
6	257	8/2/2008	CI	E 56TH ST	2 of 2	MC	DR	Y	inattention	too fast for cond	racing	0	YES	Y	0	0	1	0	2	0	0	0
7	270	8/16/2008	SR	SR-7	1 of 2	MC	DR	Y	passing where prohib	fail to yield ROW	0	0	YES	Y	0	0	0	0	0	0	0	0
8	326	8/28/2008	CO	C St S	1 of 1	MC	DR	N	inattention	0	0	0	YES	Y	1	0	0	0	0	0	0	0
9	308	9/22/2008	CO	Houston Rd E	1 of 1	MC	DR	N	over ctrline	spd over limit	other non-mov	0	NO	Y	0	0	4	0	2	0	THC	canna-binoid, type unk
10	375	9/26/2008	CO	200th St E	2 of 2	MC	DR	Y	0	0	0	0	YES	Y	1	0	0	2	0	0	0	0
11	376	10/1/2008	CO	146th Av E	1 of 1	MC	DR	Y	spd over limit	0	0	0	NO	Y	0	0	1	0	0	0.08	0	0

*"Previous other" includes seat belt violations, illegal equipment, failure to stop, reckless or negligent driving, disobeying traffic control devices, no valid license, no proof of insurance, or DWLS

**This is the MC *operator's* driver history

SUMMARY

10 fatal crashes with a total of 11 motorcyclist fatalities

- ***Target Zero priorities**
- ***5 (50%) of the MC operators were impaired**
- ***6 (60%) of the operators were speeding**
- ***1 (9%) of the drivers/riders were not wearing a helmet**

Other

- 5 (50%) of operators did not have valid MC endorsement
- 5 (40%) fatal crashes occurred on county roads
- 4 (40%) of the crashes were single vehicle
- 10 (90.9%) of fatalities were MC operators

Current WTSC Approach

- Motorcycle Strategy Group convened in November 2008;
- Multi-agency group, including agency research staff and law enforcement;
- Using WSDOT, FARS, WTSC, and WSP data to plan enforcement activities.

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Motorcycle Strategy Group Activity Plan

- Media:
  - Prepare roll call video for law enforcement;
  - Print RCW cards for law enforcement;
  - Distribute rack cards for use during enforcement (see handout); and
  - Create, print, and distribute brochures and posters to rider groups, gas stations, dealerships, etc. (see handouts).

Motorcycle Strategy Group

- Enforcement Plan:
  - Extra patrols during Sun N Surf Rally in Ocean Shores in July and for the Oyster Run in Anacortes in September; and
  - Sustained enforcement plans for summer months being developed by local law enforcement in King, Pierce, Snohomish and Skagit Counties. Using research data to target high motorcycle collision areas for enforcement.

How Washington State's Strategic Highway Safety Plan (SHSP) is Working to Address Motorcycle Safety

TARGET ZERO

A collaborative effort to improve transportation safety on all public roads

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Target Zero Vision

- To eliminate fatal and serious injury crashes by 2030
- Question:

  Is this a viable traffic safety planning strategy for motorcycles or is it just wishful thinking?

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Target Zero is Using Proven Strategies for Motorcycle Safety

Strategies to Reduce Collisions Involving Motorcycles

Objectives	Strategies
6.3 A. Reduce numbers of untrained riders.	6.3 A1. Management review of class curriculum. (T)
	6.3 A2. Change program: model (assess Oregon State model). (T)
	6.3 A3. Increase number of classes. (E)
	6.3 A4. Provide tuition incentives for completion of training. (E)
6.3 B. Reduce numbers of impaired, unskilled, and unsafe riders.	6.3 B1. WTSC public safety campaign/partnership. (T)
	6.3 B2. Clarify impoundment policy. (T)
6.3 C. Reduce numbers of non-endorsed riders.	6.3 C1. Clarify impoundment policy. (T)
	6.3 C2. Dealership cooperation. (E)
6.3 D. Increase driver awareness. Increase rider safety awareness.	6.3 D1. WTSC public safety campaign/partnership. (T)
	6.3 D2. Increase field training. (T)
	6.3 D3. Use owner's bike in training courses. (E)
6.3 E. Improve enforcement.	6.3 E1. Support specialized law enforcement training in motorcycle DUI detection and motorcycle crash investigation.

Key: To assist stakeholders, the strategies have been classified according to the AASHTO model into three categories and identified by these letters:

(P) **Proven Strategy:** Those strategies that have been used in one or more locations and subjected to properly designed evaluations that show them to be effective.

(T) **Tried/Recommended:** Those strategies that have been implemented in a number of locations and that may even be accepted as standards or standard approaches, but that lack sound valid evaluations; or those strategies that are recommended best practices according to NHTSA.

(E) **Experimental:** Those strategies that have been suggested and found sufficiently promising that at least one agency has considered trying them on a small scale in at least one location.

Motorcycle Safety Resources

Countermeasures that Work, A Highway Safety Countermeasure Guide for State Highway Safety Offices by the Governors Highway Safety Association for the National Highway Traffic Safety Administration and the U.S. Department of Transportation.
http://www.nhtsa.dot.gov/people/injury/airbag/Countermeasures/index.htm

"Promising Practices in Motorcycle Rider Education and Licensing," National Highway Traffic Safety Administration (NHTSA), DOT HS 809 852, July 2005
http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/MotorcycleRider/

Countermeasures that Work – Proven Strategies for Motorcycle Safety

Countermeasures That Work

Countermeasures to improve motorcycle safety are listed below and discussed individually in this chapter. The table is intended to give a rough estimate of each countermeasure's effectiveness, use, cost, and time required for implementation. The terms used are described below. Effectiveness, cost, and time to implement can vary substantially from State to State and community to community. Costs for many countermeasures are difficult to measure, so the summary terms are very approximate. See each countermeasure discussion for more information.

1. Motorcycle operator licensing and training

Countermeasure	Effectiveness	Use	Cost	Time
1.1 Operator education and training	Uncertain	High	Medium	Medium
1.2 Operator licensing	Uncertain	High	Low	Medium

2. Motorcycle helmets

Countermeasure	Effectiveness	Use	Cost	Time
2.1 State motorcycle helmet use laws	Proven	Medium	Low	Short
2.2 Helmet law enforcement: noncompliant helmets	Unknown	Unknown	Low	Medium
2.3 Helmet use promotion programs	Unknown	Low	Varies	Medium

3. Alcohol impairment

Countermeasure	Effectiveness	Use	Cost	Time
3.1 Alcohol impairment: detection, sanction	Unknown	Unknown	Varies	Varies
3.2 Alcohol impairment: communications	Unknown	Unknown	Medium	Medium

4. Communications and outreach

Countermeasure	Effectiveness	Use	Cost	Time
4.1 Protective and conspicuous clothing	Unknown	Unknown	Varies	Medium
4.2 Other driver awareness of motorcyclists	Unknown	Unknown	Varies	Medium

Effectiveness:

Proven: demonstrated by several high-quality evaluations with consistent results.
Likely: balance of evidence from high-quality evaluations or other sources.
Uncertain: limited and perhaps ambiguous evidence.
Unknown: no high-quality evaluation evidence.
Varies: different methods of implementing this countermeasure produce different results

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Use:

High: more than two-thirds of the States, or a substantial majority of communities.
Medium: between one third and two thirds of States or communities.

Key Elements of Target Zero

- Many partners
- Data driven
- Establishes priorities and goals
- Implemented via proven strategies and best practices
- Aggressively evaluates results
- Makes course corrections as warranted

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Measuring Progress

- Continue to analyze performance data;
- Allocate resources to target areas where the investment will generate the greatest safety benefits; and
- Again, make necessary course corrections.

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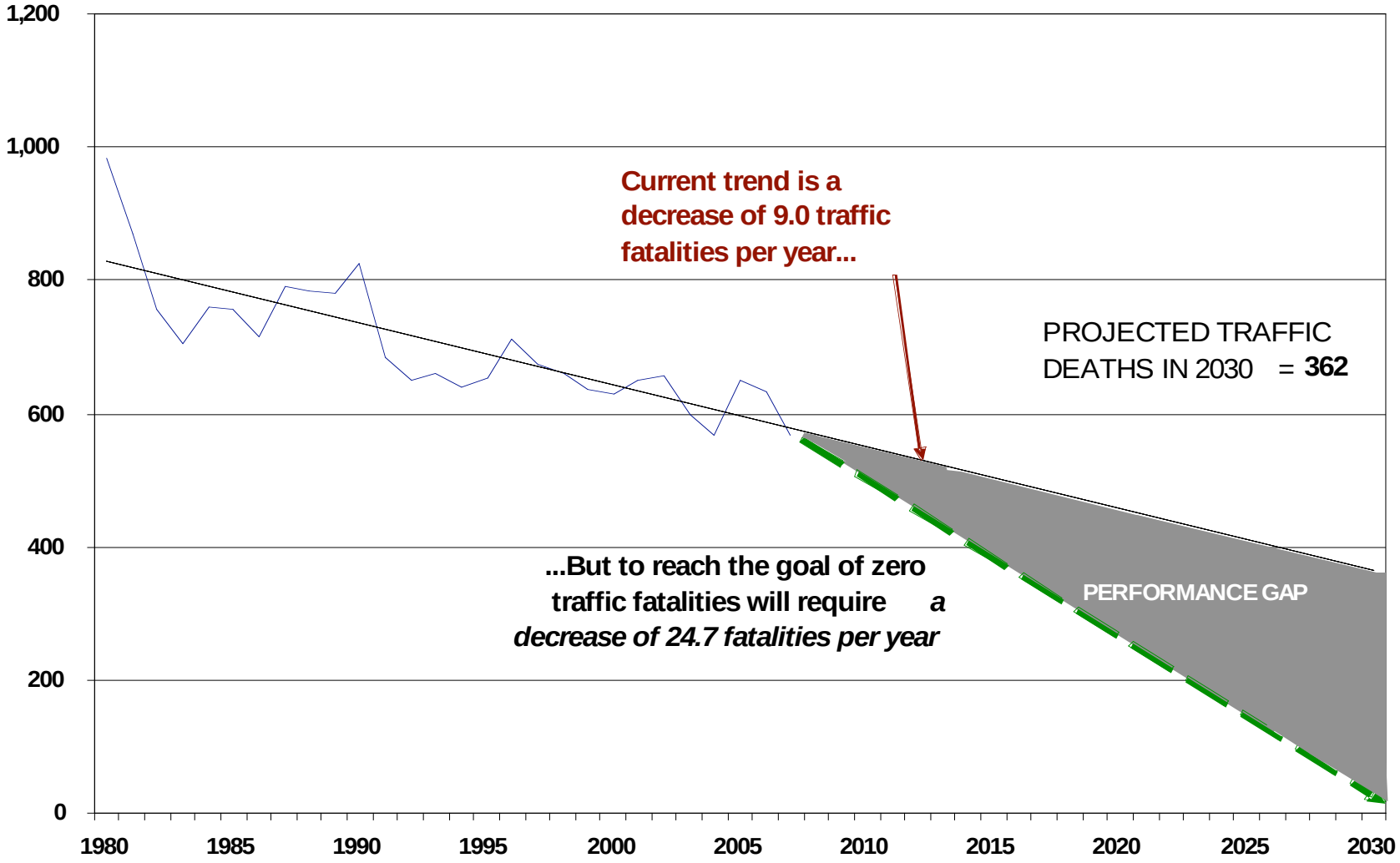
Washington Traffic Fatalities, 1980-2007

Projected to 2030 **(preliminary data for 2007)**

PREPARED BY WTSC - June 2008 *(Source: FARS)*



Conclusion

Based on previous successes experienced in Target Zero initiatives, we believe:

- We can realize reductions in motorcycle fatalities and serious injury crashes as we have seen in other modes of transportation; and
- That this work will contribute to goal of Target Zero.

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Questions


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